

REMARKS

Claims 1-7 are pending.

FIG. 5 has been labeled with the legend "Prior Art" as required by the Examiner.

The claims have been amended to clarify the subject matter of the invention and to address objections to the claims noted by the Examiner and the rejections of the claims as indefinite under 35 U.S.C. § 112, par. 2.

The claims were rejected over the following references:

(1) Claims 1, 2 and 5 were rejected as unpatentable over the combination of U.S. Patent Nos. 6,611,675 (Heymann) and 6,366,620 (Jackson et al.).

(2) Claims 3 and 4 were rejected as unpatentable over the combination of the Heymann patent and JP 06-209216.

(3) Claim 5 also was rejected as unpatentable over the combination of the Heymann and Jackson patents in view of JP 06-209216.

The Law of Obviousness

A claimed invention is unpatentable due to obviousness if the differences between it and the prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person of ordinary skill in the art." 35 U.S.C. § 103(a).

As discussed by the Court of Appeals for the Federal Circuit, a proper conclusion of obviousness under 35 U.S.C. § 103 requires that there be some motivation in the prior art that suggests the claimed invention as a whole:

[A]n Examiner may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue. Furthermore, rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for

piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be “an illogical and inappropriate process by which to determine patentability.” [Citations omitted] To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show motivation to combine the references that create the case of obviousness.

In re Rouffet, 149 F.3d 1350, 1357; 47 USPQ2d 1453, 1457-1458 (Fed. Cir. 1998). As further explained by the Federal Circuit:

Our case law makes clear that the best defense against hindsight-based obviousness analysis is the rigorous application of the requirement for a showing of a teaching or motivation to combine the prior art references. See Dembiczak, 175 F.3d at 999, 50 USPQ2d at 1617. “Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor’s disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight.” Id.

“When a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to combine the references.” In re Rouffet, 149 F.3d 1350, 1355, 47 USPQ2d 1453, 1456 (Fed. Cir. 1998) (citing In re Geiger, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987)).

Ecolochem, Inc. v. Southern California Edison Co., 56 USPQ2d 1065, 1072-73 (Fed. Cir. 2000). The showing of the motivation to combine must be “clear and particular.” *See, e.g., C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998); *Teleflex, Inc. v. Ficosa North Am. Corp.*, 63 USPQ2d 1374 at 1387 (Fed. Cir. 2002).

The Claimed Subject Matter is Patentable Over the Cited References

Independent claim 1 recites a phase-locked loop (PLL) circuit that includes first and second PLL stages. The first stage includes a voltage-controlled oscillator (VCO) whose output is provided to both first and second fractional frequency dividers. As example is illustrated in

FIG. 1 in which the first fractional divider is identified by reference numeral 5, and the second fractional frequency divider is identified by reference numeral 7.

As recited in claim 1, the output of the first frequency divider is provided to a first phase comparator whose output passes through a filter so as to provide the deviation signal that controls the output frequency of the first VCO. The output of the second fractional frequency divider is received by the second PLL stage as a reference signal.

The Heymann patent discloses first and second phase locked loops (PLLs) 1, 2, each of which includes a VCO (7 or 14) and various frequency dividers. However, the particular arrangement disclosed in that patent is different from the subject matter of claim 1. For example, neither of the VCOs 7, 14 has an output that is provided to two fractional frequency dividers as recited in pending claim 1. The output of the VCO 7 in the first PLL stage of the Heymann patent is provided only to one reference divider (9). Similarly, the VCO 14 in the second PLL stage is only provided to one reference divider 13.

The other cited references do not disclose or suggest modifying the disclosure of the Heymann patent so as to obtain the subject matter of claim 1.

At least for those reasons, applicant respectfully requests withdrawal of the rejection of claim 1.

Independent claims 3 and 4 recite phase-locked loop circuits that include two PLL stages. The second stage includes a fractional frequency divider.

Claims 3 and 4 have been amended to recite that the frequency division by the fractional frequency divider is expressed by $1/(m + A/2^b)$, wherein the value of $2^{(h-b)}/G$ is equal to a factorial of a positive integer of 10.

None of the cited references disclose or suggest that feature or the claimed subject matter as a whole.

At least for that reason, claims 3 and 4 should be allowable.

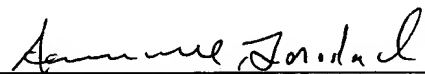
Each of the remaining claims depends from at least one of claims 1, 3 and 4. The dependent claims should, therefore, be allowable at least for the reasons discussed in connection with the claims from which they depend.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Enclosed is a check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: 11/10/04



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Serial No. : 10/620,509
Filed : July 16, 2003
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Attorney's Docket No.: 14815-015001 / F03007

Amendments to the drawings:

Please replace the sheet of drawings that includes FIG. 5 with the enclosed drawing sheet with amended FIG. 5.

FIG. 5 has been amended to include the legend "Prior Art" as required by the Examiner.

Attachment: FIG. 5 (1 sheet)